

# Claims

- [c1] A floor maintenance vehicle for performing floor maintenance operations comprising:  
a transaxle rear drive system and a powered steering system for controlling steering of a front wheel; and  
a joystick control system for providing integrated control of the transaxle rear drive system and the powered steering system by controlling the traverse speed of the transaxle drive with respect to the steering angle such that the sharper the steering angle the lower the maximum traverse speed.
- [c2] The floor maintenance vehicle as recited in claim 1, where the joystick control system has a selectable speed range level control input for selectively varying the speed range level of the transaxle rear drive system.
- [c3] The floor maintenance vehicle as recited in claim 2, where the selectable speed range level control input is selectable via a one touch control integral with the joystick.
- [c4] The floor maintenance vehicle as recited in claim 1, where the joystick control system includes:

a steering control function operable to receive a turn signal from a joystick indicative of the joystick position representing an operator desired turn angle, said steering control function further operable to output a turn angle signal indicative of the operator desired turn angle; and

a traverse control function operable to receive a speed signal from a joystick indicative of the joystick position and an operator desired speed, said traverse control function communicably linked to said steering control function to receive the turn angle signal and said traverse control function operable to output a transaxle speed control signal based on the speed signal and the turn angle signal.

- [c5] The floor maintenance vehicle as recited in claim 4, where the joystick control system further includes: a traverse interface function operable to receive a plurality of selectable speed range level control inputs for selectively varying the speed range level of the transaxle rear drive system and further operable to output a selected speed control to the traverse control function, said traverse control function operable to receive the selected speed control output and adjust the transaxle speed control signal based on selected speed control output.

[c6] The floor maintenance vehicle as recited in claim 5, where the joystick control system has a selectable speed range level control input for selectively varying the speed range level of the transaxle rear drive system and the selectable speed range level control input is selectable via a one touch control integral with the joystick and where the joystick has an auxiliary output signal for initiating an action.

[c7] A joystick control process for controlling a floor maintenance vehicle comprising the steps of:  
receiving a turn signal to a steering control function from a joystick indicative of the joystick position representing an operator desired turn angle, and outputting from said steering control function a turn angle signal indicative of the operator desired turn angle; and  
receiving a speed signal to a traverse control function from a joystick indicative of the joystick position and an operator desired speed, and receiving from said traverse control function communicably linked to said steering control function the turn angle signal and outputting from said traverse control function a transaxle speed control signal based on the speed signal and the turn angle signal.

[c8] The joystick control process as recited in claim 7, further

comprising the steps of:

receiving a selectable speed range level control input to a traverse interface function for selectively varying the speed range level of the transaxle rear drive system and further outputting a selected speed control to the traverse control function, and receiving the selected speed control output to said traverse control function and adjusting the transaxle speed control signal based on selected speed control output.

[c9] The joystick control process as recited in claim 8, where receiving the selectable speed range level control input is receiving the selectable speed control range level input based on a selectable one touch control integral with the joystick and where the joystick has an auxiliary output signal for initiating an action.

[c10] The floor maintenance vehicle as recited in claim 1, further comprising:  
a front wheel drive system; and  
where said joystick control system further provides integrated control of the front wheel drive system and the powered steering system by controlling the traverse speed of the front wheel drive with respect to the steering angle such that the sharper the steering angle the lower the maximum traverse speed.